

# JEFFREY C. HANTGAN

213 Logan Ave.  
Wyomissing, PA 19610

(610) 796-0888

[SiliconIntrinsics@juno.com](mailto:SiliconIntrinsics@juno.com)

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## PROFILE

Dynamic technical leader with demonstrated achievements in design and productization of large sophisticated quality software systems for CAD. Accomplished researcher with an extensive R&D background in electrical engineering and software. Superb administrator with the unique ability to combine hands on technical expertise to gather and articulate customer requirements, negotiate requirements based on implementation constraints, and drive a product from conception to final on-time deployment. Distinctive strengths in building collaborative teams and process improvements for advanced technology environments.

## EDUCATION

CORNELL UNIVERSITY, Ithaca, New York

Major: Electrical Systems and Network Theory

Minor: Electrophysics and Mathematics

**Ph.D.** (Electrical Engineering: Thesis - Single and Coupled Transmission Line Models of Open Dielectric Waveguides)

**M.S.** (Electrical Engineering: Thesis - Coupled Transmission Line Models of the Open Slab and Inhomogeneously Filled Waveguides)

THE GEORGE WASHINGTON UNIVERSITY, Washington, D.C.

**B.S.E.E.** with Special Honors in Electrical Engineering

## PROFESSIONAL EXPERIENCE

SILICON INTRINSICS, Wyomissing, PA.	2002 – Present
<b>Principal Consultant</b> High Performance Semiconductor Modeling and Characterization Simulation and CAD Development / Automation	
CADENCE DESIGN SYSTEMS, INC., Allentown, PA.	1998 – 2002
<b>Engineering Director</b> Solutions R&D Analog Simulation and RF CAD Development	
LUCENT TECHNOLOGIES / BELL LABORATORIES, Allentown, PA.	1996 – 1998
<b>Technical Manager</b> Circuit Simulation & RF CAD Development Group	
AT&T / LUCENT TECHNOLOGIES / BELL LABORATORIES, Reading/Allentown, PA.	1988 – 1996
<b>Member of Technical Staff</b> Circuit Simulation & RF CAD Development Group Circuit Modeling and Characterization Group IC Circuit Modeling and Design Optimization Group Analog Design Automation Group	
SUNY at STONY BROOK, Stony Brook, NY.	1981 – 1988
<b>Assistant Professor</b> Department of Electrical Engineering	
SUNY at STONY BROOK, Stony Brook, NY.	1982 – 1986
<b>Undergraduate Program Director</b> Department of Electrical Engineering	
CORNELL UNIVERSITY, Ithaca, NY.	1980 – 1981
<b>Lecturer</b> Department of Electrical Engineering	

**EXPERIENCE**

- Engineering Director, Technical Manager, and Architect for Analog & RF Circuit Simulation Tools.
  - Supervised and mentored staff consisting of R&D engineers and Services personnel.
  - Developed, coordinated, and implemented work program, product requirements, and long range plans across departments and organizations.
  - Negotiated annual funding and developed and administered budget.
  - Responsible for analog and RF circuit simulator architecture (software and algorithms), implementation, productization, quality, documentation, and distribution.
  - Architect for next generation of auxiliary analog simulation tools (Display, post-processing, optimization, statistical and analysis).
  - Full ownership for the Celerity product suite consisting of more than 1 million lines of advanced software predominantly implemented in C/C++ and Tcl/Tk. Products utilized by more than 500 engineers annually at ATT/Lucent/Agere and other IC design companies.
    1. **Celerity**, Lucent/Agere's in-house interactive and scriptable analog & RF circuit simulator.
    2. **ADV PLOT**, an analog display tool with calculator.
    3. **DOTCAL**, a waveform post-processing tool.
    4. **ModelCompiler**, a tool for compact model development.
  - Responsible for legacy analog circuit simulation tools.
- Designed and developed CAD tools and environments.
- Accomplished in circuit simulation algorithms and mathematical and computational techniques required for computer-aided analysis and design of electronic circuits.
- Adept in compact model development for IC manufacturing.
- Expert in semiconductor device modeling, characterization, measurement, and simulation.
  1. Developed **TPOT** (Technology Parameter Optimization Tool). Similar to HP's **IC-CAP** Modeling Suite, an interactive integrated circuit and device modeling, characterization, measurement, and simulation system.
  2. Developed **GENERATOR**, generates accurate model parameters and libraries for different size bipolar transistors using a single transistor and geometric information in a particular technology.
- Skilled in computer-aided design and optimization.
- Developed **SAINT** (SimulAor Input Netlist Translator), translates an input netlist from one form to another.
- Effective working experience with a variety of computer languages, packaged software, and operating systems ( C/ C++, Tcl/Tk, AWK, assembly, Fortran, lex/yacc, ksh, csh, PC Linux, Sun/Solaris, Windows 95/98/ME/2000/XP ).
- Experienced in circuit design (analysis and synthesis, analog and digital).
- Designed dedicated microprocessor and micro-controller based systems ( M68HC and MCS51 families, development tools and cross compilers ).
- Substantial research, consulting, administrative, and teaching experience.
- Taught undergraduate and graduate courses in the areas of network theory, circuit theory, digital devices and circuits, digital system design, microwaves and electromagnetics, electronics, and electronic experimentation.